

AD-667388

JOINT MILITARY PACKAGING TRAINING CENTER

# **MILITARY PACKAGING REFERENCE GUIDE**

TO

SPECIFICATIONS - MATERIALS  
PROCESSES - PROCEDURES  
AND METHODS

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#### FOREWORD

This booklet is intended as a handy reference guide for use by the students of the Joint Military Packaging Training Center. It contains reference listings of publications pertaining to the cleaning processes, drying procedures, preservative materials, methods of preservative application, methods and submethods of preservation, and the most common materials and formulas used for packaging and packing of military supplies and equipment. The specifications and standards include the latest revision symbols and the number of the current amendment or change, as applicable. Any revision, amendment, or change occurring after 31 Oct 1967 is not included, but will be included in the next change or revision to the booklet. This booklet should not be construed as a complete and comprehensive list of packaging publications.

Any comments concerning the booklet should be addressed to: Director, Joint Military Packaging Training Center, ATTN: AMXPT-SD, Aberdeen Proving Ground, Maryland 21005.

# CONTENTS

	PAGE
I CLEANING PROCESSES & MATERIALS -----	1
II DRYING PROCEDURES -----	3
III PRESERVATIVE MATERIALS -----	3
IV METHODS OF PRESERVATIVE APPLICATION -----	6
V METHODS & SUBMETHODS OF PRESERVATION -----	7
VI PACKAGING & PACKING MATERIALS -----	9
Adhesives -----	9
Bags & Sacks -----	10
Barrels, Drums, Pails & Kegs -----	11
Barrier Materials -----	12
Boxes, Fiberboard -----	13

## CONTENTS

	PAGE
Boxes - Wood & Metal -----	14
Bolts -----	15
Bulk Packaging Materials -----	15
Cans -----	16
Cleaning Materials -----	16
Coating Compounds -----	17
Containers (Miscellaneous) -----	19
Crates -----	20
Cushioning -----	20
Desiccants -----	23
Drums -----	23
Equipment -----	23
Gasket Material -----	24
Hydraulic Fluids -----	24

## CONTENTS

	PAGE
Indicators -----	25
Kegs -----	25
Lubricants -----	25
Marking Materials -----	26
Miscellaneous Packaging Materials -----	27
Nails -----	27
Packaging Hardware -----	27
Pallets -----	28
Preservatives -----	29
Strapping -----	30
Tapes -----	30

## CONTENTS

	PAGE
Volatile Corrosion Inhibitors -----	31
Wrapping Materials (Other Than Barrier Material) -----	32
VII MISCELLANEOUS PUBLICATIONS -----	33
VIII SPECIAL SUBJECT PUBLICATIONS -----	40
IX FORMULAS -----	49

# IMPORTANT NOTICE

Due to reorganization within the Department of the Army, the codes for Army activities have been changed. The following table is provided as a cross-reference between new Army command symbols and former Army Technical Service symbols:

FORMER ARMY TECHNICAL SERVICES		NEW ARMY COMMANDS AND ACTIVITIES	
CODE		CODE	
CM	Chemical Corp	MU	Munitions Command
CE	Corps of Engineers		Surgeon General
		* See below	
MD	Army Medical Corps	GL	US Army Natick Laboratories
OR	Ordnance Corps	EL	Electronics Command
QM	Quartermaster Corps	MO	Mobility Command
		WC	Weapons Command
SC	Signal Corps	MR	Materials Research Agency
TC	Transportation Corps	MI	Missile Command

\* The former Technical Service Code is being replaced by the code of one of the new commands reflecting interest in the document. To determine the new command code to be substituted, the FSC number appearing in the document must be checked against a table found in the Department of Defense Index of Specifications and Standards.

Following are the codes for the Navy.

NAVY

FORMER NAVY CODES

WP	Bureau of Naval Weapons
MC	Marine Corps
MS	Bureau of Medicine and Surgery
PE	Bureau of Naval Personnel
SH	Bureau of Ships
SA	Bureau of Supplies and Accounts
YD	Bureau of Yards and Docks
CG	US Coast Guard Headquarters
NP	Publications and Printing Service
TD	Training Devices Center



NAVY

NEW NAVY CODES

NAVMATCOM	Naval Material Command
NAVAIRSYSCOM	Naval Air Systems Command
NAVSHIPSYSYSCOM	Naval Ships Systems Command
NAVSUPSYSCOM	Naval Supply Systems Command
NAVELECSYSCOM	Naval Electronics Systems Command
NAVORDSYSCOM	Naval Ordnance Systems Command
NAVFACENGCOM	Naval Facilities Engineering Command
MC	Marine Corps
MS	Bureau of Medicine and Surgery
PL	Bureau of Personnel
CC	US Coast Guard Headquarters
NP	Publications and Printing
TD	Training Devices Center

Following are the Codes for the US Air Force:

AIR FORCE

<u>Code</u>	
01 AFSPPE	Hq. USAF, USAF Departmental Standardization Office
03 AFMSHB	Materiel Division, Directorate of Plans and Hospitalization, Office of the Surgeon General
10 AFSC, SCSVN	Systems Criteria Division, Directorate of Systems Policy, DCS/Systems
11 AFSC, SEP	Research and Technology Division, and Aeronautical Systems Division, Systems Engineering Group
12 AFSC, RPPS	Air Force Rocket Propulsion Laboratory
13 AFSC, ESTS	Electronic Systems Division
14 AFSC, SSSD	Space Systems Division
15 AFSC, WILR	Air Force Weapons Laboratory
16 AFLC, NCMSD	Maintenance Systems Division
17 AFSC, ELMES	Rome Air Development Center

18	AFSC, BSOM	Ballistic Systems Division
23	AFLC, MCDEQ	Management Engineering Office, Quality Control Branch
25	AFLC, MCSP	Air Force Provisioning Policy and Procedures Office
26	AFLC, MCSI	Cataloging and Standardi- zation Division
28	AFLC, MCH	Staff Chaplain
43	AFLC, MCTE	Packaging and Materials Handling Division
69	AFLC, SGTE	Air Force Packaging Evaluation Agency
70	OCAMA, OONSS	Ogden Air Materiel Area
71	OCAMA, OCNSSB	Oklahoma City Air Materiel Area
79	SAAMA, SAWRCS	San Antonio Air Materiel Area

80	SMAMA, SMNSS	Sacramento Air Materiel Area
82	SAAMA, SANSS	San Antonio Air Materiel Area
84	WRAMA, WRNSS	Warner Robins Air Materiel Area
85	AFLC, SGEBA	Interchangeability and Control Division
89	USAFSS, AFCD (DSOC-3)	USAF Security Service, 6936 Communications Security Depot Group

DEFENSE SUPPLY AGENCY

DH	Headquarters, Defense Supply Agency
CS	Defense Construction Supply Center
CT	Defense Clothing and Textile Supply Center
DM	Defense Medical Supply Center
GS	Defense General Supply Center
IS	Defense Industrial Supply Center
PS	Defense Fuel Supply Center
SS	Defense Subsistence Supply Center
IP	Defense Industrial Plant Equipment Center

OTHER

DS	Defense Atomic Support Agency
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I

CLEANING PROCESSES AND MATERIALS  
MIL-F-116

- C-1      ANY APPLICABLE PROCESS
- C-3      PETROLEUM SOLVENT CLEANING  
P-D-680(2), Dry Cleaning Solvent  
or  
TT-T-291c, Thinner, Paint, Volatile  
Mineral Spirits (Petroleum-Spirits)
- C-5      PETROLEUM SOLVENT CLEANING (C-3),  
FOLLOWED BY FINGERPRINT REMOVER (C-8)  
P-D-680(2), Dry Cleaning Solvent  
  
TT-T-291c, Thinner, Paint, Volatile  
Mineral Spirits (Petroleum-Spirits)  
and  
MIL-C-15074B(1), Corrosion Preventive,  
Fingerprint Remover
- C-7      VAPOR DEGREASING  
O-T-235b, Tetrachloroethylene (Perchl-  
oroethylene), Technical Grade  
or  
O-T-634a, Trichloroethylene

- C-8      PERSPIRATION AND FINGERPRINT REMOVAL  
MIL-C-15074B(1) Corrosion Preventive,  
Fingerprint Remover  
and  
P-D-680(2) Dry Cleaning Solvent,  
or  
TT-T-291c, grade 1, Thinner; Paint,  
Volatile Mineral Spirits (Petroleum  
Spirits)
- C-9      ALKALINE CLEANING  
MIL-C-5543A, Cleaning; Compound, Washing-  
Machine (for Aircraft Metal Parts);  
or  
P-C-436b, Cleaning Compound, Alkali  
Boiling Vat, (soak) hydrosteam
- C-11      ELECTROCLEANING  
P-C-535(1), Cleaning Compound, Plater's  
Electrocleaning for Steel
- C-12      EMULSION CLEANING  
P-C-444, Cleaning Compound, Solvent,  
Grease E Emulsifying
- C-14      STEAM CLEANING  
P-C-437, Supp 5, Cleaning Compound, High-  
Pressure Steam Cleaning
- C-15      ABRASIVE BLAST  
Materials as specified
- C-16      ABRASIVE BLAST (HONING PROCESS)  
Materials as specified

- C-17      SOFT GRIT BLAST  
MIL-G-5634A, Grain Abrasive, Soft (for  
Carbon Removal)
- C-18      VAPOR-DEGREASING FOLLOWED BY FINGERPRINT  
REMOVAL  
(See Processes C-7 and C-8 for Materials)

II

DRYING PROCEDURES  
MIL-P-116

- D-1      PREPARED COMPRESSED AIR
- D-2      OVEN
- D-3      INFRA-RED LAMPS
- D-4      WIPING
- D-5      DRAINING

III

PRESERVATIVE MATERIALS  
MIL-P-116

- P-1      THIN FILM PRESERVATIVE (HARD-DRYING,  
COLD APPLICATION)  
MIL-C-16173C, grade 1, Corrosion Pre-  
ventive Compound, Solvent Cutback, Cold-  
Application

P-2      THIN FILM PRESERVATIVE (SOFT FILM, COLD-APPLICATION)  
MIL-C-16173C, grade 2

P-3      THIN FILM PRESERVATIVE, WATER DISPLACING (SOFT FILM, COLD-APPLICATION)  
MIL-C-16173C, grade 3

P-6      LIGHT PRESERVATIVE COMPOUND (HOT DIP, SOFT FILM)  
MIL-C-11796B, class 3

P-7      MEDIUM PRESERVATIVE OIL (COLD APPLICATION)  
MIL-L-3150A(1), Lubricating Oil, Preservative, Medium

P-9      VERY LIGHT PRESERVATIVE OIL (COLD APPLICATION)  
VV-L-800, Lubrication Oil, General Purpose, Preservative, Water Displacing, Low Temperature

P-10     ENGINE PRESERVATIVE OIL  
MIL-L-21260, Lubricating Oil, Internal-Combustion Engine, Preservative;  
or  
MIL-C-6529C(2), Corrosion Preventive, Aircraft Engine  
MIL-C-8188C, Corrosion Preventive Oil, Gas Turbine Engine, Aircraft Synthetic Base



PRESERVATIVE GREASE (APPLICATION AS REQUIRED)

MIL-G-771A, Grease, Aircraft, General Purpose

or

MIL-G-10924B, Grease, Automotive and Artillery,

OK

MIL-G-23827A, Grease, Aircraft and Instrument, Gear and Actuator Screw

CORROSION PREVENTIVE (FOOD HANDLING  
MACHINERY AND EQUIPMENT, NONTOXIC)

MIL-C-10382B, Corrosion Preventive, Petro-  
latum, Spraying Application; for Food  
Handling Machinery and Equipment.

## HYDRAULIC PRESERVATIVE OIL

NOTE: Specifications for hydraulic preservative oils have not been listed because of variations in system requirements. Hydraulic preservatives used shall be subject to approval by the procurement agency.

INSTRUMENT BEARING PRESERVATIVE OIL

MIL-L-6085A(2), Lubricating Oil, Instru-  
ment, Aircraft, Low Volatility.

VOLATILE CORROSION INHIBITOR

MIL-P-3420B(1), Packaging Material,  
Volatile Corrosion Inhibitor, Treated,  
Opaque. (See note under Methods of  
Preservative Application.)

- P-19      THIN FILM PRESERVATIVE (TRANSPARENT, NONTACKY)  
MIL-C-16173C, grade 4, Corrosion Preventive Compound, Solvent Cutback, Cold-Application.
- P-20      LUBRICATING OIL, CONTACT (VCI TREATED)  
MIL-L-46002, Lubricating Oil, Contact and Volatile Corrosion Inhibited,  
and  
MIL-I-23310, Inhibitors, Corrosion, Volatile, Oil Type

IV

METHODS OF PRESERVATIVE APPLICATION  
MIL-P-116

1.      DIPPING
2.      FLOW COATING
3.      SLUSHING
4.      BRUSHING
5.      FILLING OR FLUSHING
6.      FOGGING
7.      SPRAYING

METHODS AND SUBMETHODS OF PRESERVATION  
MIL-P-116

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- METHOD I PRESERVATIVE COATING (WITH GREASE-  
PROOF WRAP AS REQUIRED)
- METHOD IA WATER-VAPORPROOF ENCLOSURES (WITH  
PRESERVATIVE AS REQUIRED)
  - Submethod IA-5 - Rigid Metal Con-  
tainer, Sealed
  - Submethod IA-6 - Rigid Container  
(items immersed in preservative,  
oil type, sealed)
  - Submethod IA-8 - Water-Vaporproof  
Bag, Sealed
  - Submethod IA-13 - Rigid Container,  
Other Than All-Metal, Sealed
  - Submethod IA-14 - Container, Bag,  
Container
  - Submethod IA-15 - Container, Bag
  - Submethod IA-16 - Floating Barrier

METHOD IB      STRIPPABLE COMPOUND COATING (HOT DIP)

                 Submethod IB-1 - Direct Application  
   of Strippable Compound

                 Submethod IB-2 - Aluminum Foil Wrap,  
   Strippable Compound

METHOD IC      WATERPROOF BARRIER (WITH PRESERVA-  
   TIVE AS REQUIRED)

                 Submethod IC-1 - Greaseproof, Water-  
   proof Bag, Sealed

                 Submethod IC-2 - Container, Over-  
   wrapped with Waterproof Barrier  
   Material, Sealed

                 Submethod IC-3 - Waterproof Bag,  
   Sealed

                 Submethod IC-4 - Waterproof Fiber  
   Can with Metal Ends, Sealed

                 Submethod IC-7 - Blister Package,  
   Multiple Compartment, Individually  
   Sealed

                 Submethod IC-8 - Skin Package,  
   Vacuum Formed

METHOD II

WATER-VAPORPROOF BARRIER WITH  
DESICCANT (WITH CONTACT PRESERVATIVE  
WHEN REQUIRED)

Submethod IIa - Floating Bag

Submethod IIb - Container, Barrier,  
Container

Submethod IIc - Cushioned Item Bag

Submethod IId - Rigid Metal Container,  
Sealed

Submethod IIe - Container, Barrier

Submethod II f - Rigid Container,  
Other Than All-Metal, Sealed

METHOD III

PACKAGED FOR MECHANICAL AND PHYSICAL  
PROTECTION ONLY

VI

PACKAGING AND PACKING MATERIALS

ADHESIVES

MM-A-130a

Adhesive, Contact

MM-A-179

Adhesive, Paper Label, Water-Resis-  
tant, Water Emulsion Type

ADHESIVES (CONTINUED)

MMM-A-25Ca Amd. 1	Adhesive, Water-Resistant (For sealing fiberboard boxes)
MMM-A-260a(1)	Adhesive, Water-Resistant (For sealing waterproof paper)
MIL-A-388A(1)	Adhesive and Sealing Compound, Cellulose Nitrate Base
MIL-A-3941A	Adhesive, Paper Label, Water-Resis- tant
MIL-A-5092B(1)	Adhesive, Rubber Base, General Purpose

BAGS AND SACKS

UU-B-38b Int. Amd. 1 (GSA-FSS)	Bag, Paper (Hardware)
UU-B-0040b (GSA-FSS)	Bags, Paper, Shipping
UU-S-48b	Sacks, Shipping, Paper
PPP-b 15a	Bags and Envelopes, Cellophane for Packaging
PPP-B-20b	Bags, Cotton, Mailing

BAGS AND SACKS (CONTINUED)

FPP-B-35b	Bags, Textile. Shipping, Burlap, Cotton and Waterproof Laminated
PPP-S-30(2)	Sack, Shipping, Paper (Cushioned)
MIL-B-117D	Bags. Interior, Packaging
MIL-B-137A(2) Int. Amd.3(GL)	Bags and Sacks, for Packaging and Packing of Subsistance Items
MIL-B-22205B	Bags, Transparent, Flexible, Heat-Sealable, for Packaging Applications

BARRELS, DRUMS, PAILS AND KEGS

NN-K-231e	Keg, Wood, Slack
PPP-B-41	Barrels, Wood, Slack
PPP-D-700b Int. Amd.2(GL)	Drums, Metal, 55-Gallon (For Acids and Corrosive Liquids)
PPP-D-705c Int. Amd.2(GL)	Drum: Metal Shipping, Steel (Over 12 and under 55-gallon)
PPP-D-711d Int. Amd.2(GL)	Drums, Metal, Shipping, Steel, Light-weight 55-gallon
PPP-D-723e Int. Amd. 1 (GSA-FSS)	Drums, Fiber

BARRELS, DRUMS, PAILS AND KEGS (CONTINUED)

PPP-D-729b(2) Drums, Metal, 55-gallon (for Shipment  
of Noncorrosive Material)

PPP-F-704b Pails, Shipping, Steel 1-12 Gal.

MIL-D-112A Drums, Plywood

MIL-D-6054C Drums, Metal, Shipping and Storage  
w/Supp 1A  
Int. Amd. 1 (GL)

MIL-D-6055b(1) Drums: Metal, Reusable, Shipping  
and Storage (Cap from 88 to 510 cu. in.)

MIL-D-26993A(4) Drums, Fiber, for Domestic Shipment  
of Desiccant

BARRIER MATERIALS

L-P-378b Plastic Sheet and Strip (Polyolefin)

L-P-512a Plastic Sheet (Sheeting), Polyethylene

PPP-B-1055 Barrier Material, Waterproofed,  
Flexible

MIL-B-121C Barrier Material, Greaseproofed,  
Waterproofed, Flexible

MIL-B-131E Barrier Material, Water-Vaporproof,  
Amd. 1 Flexible



BARRIER MATERIALS (CONTINUED)

MIL-A-143D(1)	Aluminum Foil
MIL-L-10547D	Liners, Case and Sheet, Overwrap; Water-Vaporproof, or Waterproof Flexible
MIL-B-13239C	Barrier Material, Waterproofed, Flexible, All Temperature
MIL-P-20293A	Paper, Kraft, Asphalt Impregnated
MIL-F-22191B	Films, Transparent, Flexible, Heat Sealable for Packaging Applications

BOXES, FIBERBOARD

PPP-B-566c	Boxes, Folding, Paperboard
PPP-B-636c(2) Int. Amd. 3(GL)	Box, Fiberboard
PPP-B-640d	Boxes, Fiberboard, Corrugated, Triple-Wall

BOXES, FIBERBOARD (CONTINUED)

PPP-B-655	Box, Fiberboard, Six or Eight Sides
PPP-B-555(2)	Boxes, Paperboard, Metal Stayed (Including Stay Material)
PPP-B-676C	Boxes, Set-Up
MIL-B-38721 USAF	Boxes, Consolidation, Fiberboard
MIL-B-40642(2)	Box, Fiberboard, Corrugated, Triple-Wall, 1,000 lb. Capacity
MIL-B-43014A (MO)	Boxes, Water-Resistant, Paperboard, Folding, Set-Up and Metal Stayed
MIL-B-43291 (GL)	Boxes, Fiberboard, Corrugated, Doublewall, Weather-Resistant

BOXES - WOOD AND METAL

PPP-B-576c	Box, Wood, Cleated Veneer, Paper- Overlaid
PPP-B-585b	Boxes, Wood, Wirebound
PPP-B-591a	Boxes, Fiberboard, Wood-Cleated
PPP-B-601c	Boxes, Wood, Cleated Plywood
PPP-B-621b	Boxes, Wood, Nailed and Lock-Corner

BOXES - WOOD AND METAL (CONTINUED)

MIL-B-11886H      Box, Metal, Shipping, Reusable,  
Transporter, Steel Maximum Load  
9,000 lbs.

MIL-B-21827A(1) Box, Consolidation

MIL-3-25305A Boxes, Metal or Non-Metal Shipping

MIL-E-26195A      Boxes, Wood-Cleated, Skidded,  
Load-Bearing Base

MIL-B-26241A Boxes, Demountable, Assembled with Fasteners Other Than Nails and Screws

MIL-STD-813 Box, Wood, Demountable, Reusable  
(USAF) and Modular

BOLTS (SEE PACKAGING HARDWARE)

BULK PACKAGING MATERIALS

NN-P-530b Plywood, Flat Panel  
NN-P-00530C(ME)

PPP-F-00310 Fiberboard, Corrugated, Wax and/  
(GSA-FSS) or Resin Impregnated

PPP-F-320c(2) Fiberboard; Corrugated and Solid,  
Int. Amd. 3 Sheet Stock (Container Grade), and  
(GSA-FSS) Cut Shapes

BULK PACKAGING MATERIALS (CONTINUED)

PPP-V-205a(1) Veneer, Paper-Overlaid, Container-Grade

MIL-P-14591B(1) Plastic Film: Non-Rigid, Transparent

CANS

PPP-C-55A Cans, Fiberboard and Paperboard (with Paper and Metal Ends)

PPP-C-96a(1) Cans, Metal, 28-Gage and Lighter

MIL-C-3955A Cans, Fiber, Spirally Wound

MIL-C-4470B Cans, Hermetic Sealing, Rectangular

MIL-C-10464B Cans, Hermetic Sealing, Metal, Light Gage, Tear-Strip Type

MIL-C-26094B Can, Hermetic Sealing, Aluminum, Two-Piece

CLEANING MATERIALS

O-T-236b Tetrachloroethylene (Perchloroethylene)

O-T-634a Trichloroethylene

P-C-436b Cleaning Compounds, Alkali, Boiling Vat, (Soak) Hydrosteam

P-C-437 Cleaning Compound, High-Pressure  
Supp 5 Steam Cleaning

CLEANING MATERIALS (CONTINUED)

P-C-444a	Cleaning, Compound, Solvent, Grease Emulsifying
P-C-535(1)	Clearing Compound, Plater's Electro-cleaning for Steel
P-D-680(2)	Dry Cleaning Solvent
TT-T-291c	Thinner, Paint, Volatile Mineral Spirits (Petroleum Spirits)
MIL-C-5543A(1) Int. Amd. 2 (AS)	Cleaning, Compound, Washing-Machine (Aircraft Metal Parts)
MIL-G-5634B	Grain Abrasive, Soft (For Carbon Removal)
MIL-C-15074C	Corrosion Preventive, Fingerprint Remover
MIL-D-16791E(2)	Detergents, General Purpose Liquid, Nonionic
MIL-C-52412	Cleaning Compound, High-Pressure Cleaner, Steam

COATING COMPOUNDS

MIL-P-149A	Plastic Coating, Compound, Strip-pable (Hot-Dipping)
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COATING COMPOUNDS (CONTINUED)

MIL-T-152B(2) Treatment, Moisture and Fungus -  
Resistant of Communications,  
Electronics, and Associated  
Electrical Equipment

MIL-V-173B(2) Varnish Moisture-Fungus Resistant  
(For the Treatment of Communications  
Electronic and Associated Electrical  
Equipment)

MIL-C-3254A(3) Coating System, Bridging Strip-  
pable, Sprayable

MIL-C-6799C(1) Coating, Sprayable, Strippable,  
Protective

MIL-P-11520D(2) Preservative Coating, Rubber for  
Rubber Surfaces

MIL-V-13811C Varnish, Waterproofing, Electrical -  
Ignition

MIL-C-16555C(1) Coating Compound, Strippable,  
Sprayable

MIL-C-23760A(1) Coating, Sprayable, Strippable,  
(AS) Protective for Preservation and  
Packing of Weapons Systems and  
Components, Application of

COATING COMPOUNDS (CONTINUED)

MIL-P-45021A Plastic Coating Compound, Strippable  
Cold Dipping (120°F.)

CONTAINERS (MISCELLANEOUS)

PPP-C-186 Containers, Packaging and Packing  
for Drugs, Chemicals, and Pharma-  
cuticals

PPP-T-495a(1) Tubes, Mailing and Filing

MIL-C-4116A Containers, Shipping Reusable,  
Wood, Aircraft Engines

MIL-C-5584B(1) Containers, Shipping, Aircraft  
Engines, Metal

MIL-C-9282A Container, Shipping, Metal, Reusable  
5 Cu. Ft. - 50 Cu. Ft. Volume

MIL-C-9959(1) Container, Flexible, Reusable,  
Water-Vaporproof

MIL-C-22443 Containers, Modular, Metal, General  
(AS) Specifications For

MIL-C-25010 Containers, Air and Surface Ship-  
ment of Aircraft Components (2,000  
Pounds Maximum Loads)

MIL-C-38226 Containers, Polyurethane, Rigid or  
Elastic for Packaging Small Engines

#### CRATES

PPP-C-650	Crates, Wood, Open and Covered
MIL-C-104A(1)	Crates, Wood, Lumber and Plywood Sheathed, Nailed and Bolted
MIL-C-3774A	Crates, Wood; Open 12,000- and 16,000- Pound Capacity
MIL-C-9437C	Crate, Wood, Open, Fuel Tank, External, Assembled
MIL-C-9897(1)	Crate, Slotted Angle, Steel or Aluminum, for Lightweight Airframe Components and Bulky Items (For Maximum Loads of 3,000 lbs.)
MIL-C-11133B	Crates, Wood Slatted Style, Wire-bound, Domestic
MIL-C-22806A	Crates, Sheathed, Wood, Wirebound
MIL-C-25371	Crate, Wood, Open, Domestic (For Lightweight Bulky Airframe Items)

#### CUSHIONING

C-F-202C	Felt Sheet (Hair) and Felt Roll (Hair)
PPP-P-150a	Paper, Shredded Waxed



CUSHIONING (CONTINUED)

PPP-P-291C	Paperboard, Wrapping (With Cushioning Value)
PPP-C-00795 (GSA-FSS)	Cushioning Material, Cellular, Plastic Film (For Packaging Appli- cations)
PPP-C-843a(3)	Cushioning Material, Cellulosic
PPP-C-850	Cushioning Material, Polystyrene, Expanded, Resilient (For Packaging Uses)
PPP-t-911c	Excelsior, Wood, Fabricated Pads and Bulk Form
MIL-B-3106	Board, Composition, Water-Resistant, Solid (for Filler or Cushioning Pads)
MIL-R-6130B	Rubber, Cellular, Chemically Blown
MIL-C-7769A Int. Amd. 3(69) Int. Amd. 1(MU)	Cushioning Material, Uncompressed Bound Fiber, For Packaging
MIL-h-9884B	Honeycomb Material, Cushioning, Paper

CUSHIONING (CONTINUED)

MIL-P-13607(MU) Padding Materials, Resilient  
(For Packaging of Ammunition)

MIL-C-17435B(1) Cushioning Material, Fibrous Glass

MIL-P-19644A Plastic Foam, Molded Polystyrene  
MIL-P-0019644B (Expanded Bead Type)  
(OS)

MIL-C-23734(1) Cushioning Material Cellulosic,  
Treated, Free Flow, Tubular

MIL-C-26296 Cushioning Material, Packaging,  
Synthetic Fibers

MIL-P-26514A Polyurethane Foam, Rigid and  
Elastic, for Packaging

MIL-C-26861A(1) Cushioning Material, Resilient  
(USAF) Type, General

MIL-C-26862A Fiberboard, Solid, Dunnage,  
(USAF) Multipurpose Cushioning and  
Blocking Applications

MIL-C-40010 Cushioning Material, Polyvinyl  
Chloride Plasticized, Cellular

CUSHIONING (CONTINUED)

MIL-C-46842 Cushioning Material, Unicellular Polyethelene Foam (For Packaging Purposes)

MIL-C-81013(1) Cushioning Materials, Transparent, (AS) Flexible, Cellular, Plastic Film, For Packaging Applications

DESICCANTS

MIL-D-3464D Desiccants, Activated, Bagged, Packaging Use and Static Dehumidification

MIL-D-3716A(2) Desiccants, Activated, for Dynamic Dehumidification

DRUMS (SEE BARRELS, DRUMS, PAILS, AND KEGS)

EQUIPMENT

MIL-S-4461D Sealing Machines. Heat, Bench and Portable (Temperature, Pressure and Time Controlled)

MIL-D-26847B Degreaser, Vapor Type, Stationary, Spray Attachment, Steam or Electrically Heated

EQUIPMENT (CONTINUED)

MIL-S-22783      Sealing Machines, Electrical  
                         Impulse, (Jaw Type)

MIL-S-43361      Stretching and Sealing Machine,  
                         Steel Strapping Band

GASKET MATERIAL

MIL-G-6841C      Gasket Material, Tape and Sheet,  
                         Adhesive, Rubber and Cork Composition

MIL-G-12803A(2) Gasket Materials, Nonmetallic

MIL-G-13210      Gaskets, Rubber

MIL-G-20241C      Gasket Material, Wool Felt, Impreg-  
                         nated, Adhesive, Pressure-Sensitive

HYDRAULIC FLUIDS

VV-B-680          Brake Fluid, Automotive

MIL-H-5606B      Hydraulic Fluid, Petroleum Base,  
                         Aircraft, Missile and Ordnance

MIL-H-6083C      Hydraulic Fluid, Petroleum Base,  
                         For Preservation and Testing

MIL-H-7083A      Hydraulic Fluid, Non-Flammable,  
                         Aircraft, Hydrolube

HYDRAULIC FLUIDS (CONTINUED)

MIL-H-8446B(1)	Hydraulic Fluid; Non-Petroleum Base, Aircraft
MIL-H-13910B	Hydraulic Fluid, Non-Petroleum Base, Automotive Brake, All Weather
MIL-H-13919A	Hydraulic Fluid, Petroleum Base, Fire Control

INDICATORS

MIL-I-26860A	Indicator, Humidity, Plug, Color Change
MS - 20003C	Indicator, Humidity, Card, Three- Spot Impregnated Areas (Cobaltous Chloride)

KEGS (SEE BARRELS, DRUMS, PAILS, AND KEGS)

LUBRICANTS

MIL-L-2105B	Lubricating Oil, Gear, Multi- Purpose
MIL-L-3503(1)	Lubricating Oil, Preservative, Light
MIL-G-6711	Graphite, Lubricating

#### MARKING MATERIALS

TT-E-485e	Enamel, Semi-Gloss, Rust Inhibiting
TT-E-489d	Enamel, Alkyd, Gloss (For Exterior and Interior Surfaces)
TT-E-515(2)	Enamel, Alkyd, Lusterless, Quick Drying
TT-I-558c	Ink, Marking Stencil, Opaque, for Nonporous Surfaces (Metal, Glass, etc.)
TT-I-559b(2)	Ink, Marking Stencil, Opaque for Porous Surfaces (Wood Boxes, Fiber Cartons, etc.)
TT-L-20	Lacquer, Camouflage
TT-P-25c	Primer, Paint, Exterior (Undercoat for Wood, Ready Mixed, White and Tints)
TT-V-121e	Varnish, Spar, Water-Resisting
PPP-P-700a(1)	Protector, Packing List
MIL-D-8635B(1)	Decals, For Use On Interior Surfaces
MIL-P-13983C(1)	Paint, Temporary, Lusterless, Gasoline Removable

MARKING MATERIALS (CONTINUED)

MIL-C-175G4B(2) Coating Compound, Acrylic, Clear

MIL-P-52108 Paint, Water Emulsion Type for  
Stenciling and Obliterating

MISCELLANEOUS PACKAGING MATERIALS

MIL-E-6060B Envelopes, Packaging, Water-  
Vaporproof, Flexible

MIL-W-10434B(2) Windows, Protective Envelope  
(For Installation in Water-  
Vaporproof Barriers)

NAILS (SEE PACKAGING HARDWARE)

PACKAGING HARDWARE

FF-B-561b Bolts, Lag

FF-B-571a(1) Bolts, Nuts, Studs and Tap Rivets  
(and Material for Same)

FF-B-575b Bolts, Hexagon and Square

FF-B-584c(2) Bolts, Finned Neck; Key Head;  
Machine, Ribbed Neck; Square Neck;  
Tee Head

FF-N-103c Nails, (Small) and Tacks; Cut

PACKAGING HARDWARE (CONTINUED)

FF-N-105a(1)	Nails, Wire, Brads and Staples
QQ-S-781e(4)	Steel Strapping Flat
QQ-S-790b(1)	Steel Strapping, Round (Base and Zinc Coated)
PPP-S-760a(2)	Strapping, Nonmetallic, (and Connectors)

PALLETS

MIL-P-3938B(2)	Pallets, Materials Handling, Hardwood, Stringer Construction 4-Way (Partial)
MIL-S-9968	Skids, Aluminum, Demountable, Reusable, for Maximum Loads not Exceeding 50,000 Pounds
MIL-P-15011F	Pallets, Materials Handling, Hardwood Post Construction, 4-Way
MIL-P-26342 (USAF)	Pallet, Box, Fiberboard, Expendable, for Air Shipment
MIL-P-26966C (USAF)	Pallet, Material Handling, Lightweight, Air Cargo



PRESERVATIVES (SEE ALSO SECTION III "P-TYPE  
PRESERVATIVES")

VV-L-800	Lubricating Oil, General Purpose, Preservative (Water Displacing, Low Temperature)
MIL-L-3150A(1)	Lubricating Oil, Preservative, Medium
MIL-L-3503	Lubricating Oil, Preservative, Light
MIL-L-6085A(2)	Lubricating Oil, Instrument, Air- craft, Low Volatility
MIL-C-6529C(2)	Corrosion Preventive Aircraft Engine
MIL-C-10382B	Grease, Aircraft, General Purpose
MIL-C-10382B	Corrosion Preventive Petrolatum, Spraying Application, for Food Handling Machinery and Equipment
MIL-G-10924B	Grease, Automotive and Artillery
MIL-C-11796R	Corrosion Preventive-Compound, Petrolatum, Hot Application
MIL-C-16173D(1)	Corrosion Preventive Compound, Solvent Cutback, Cold Application

PRESERVATIVES (SEE ALSO SECTION III "P-TYPE  
PRESERVATIVES" (CONTINUED))

MIL-C-18487	Compound Gun Slushing
MIL-L-21260	Lubricating Oil, Internal-Combustion Engine, Preservative
MIL-G-23827A	Grease, Aircraft and Instrument Gear and Actuator Screw
MIL-P-46046A	Preservative Fluid, Automotive Brake System and Components

STRAPPING (SEE PACKAGING HARDWARE)

TAPES

L-T-90c(1) Int. Amd. 2 (GSA-FSS)	Tape, Pressure-Sensitive, Adhesive, (Cellophane and Cellulose Acetate)
L-T-99a	Tape, Pressure-Sensitive, Adhesive, Identification (Acetate Fibers)
UU-T-101e	Tape, Gummed, Mending and Rein- forcing (Paper & Cloth)
UU-T-106c	Tape, Pressure-Sensitive Adhesive, Masking, Paper
PPP-T-42a	Tape, Pressure-Sensitive Adhesive (General Packaging Application)
PPP-T-45b Amd. 1	Tape, Gummed, Paper, Reinforced, and Plain for Sealing and Securing
PPP-T-60b(2)	Tape, Pressure-Sensitive Adhesive, Waterproof, for Packaging

TAPES (CONTINUED)

PPP-T-76b	Tape, Pressure-Sensitive Adhesive, Paper, Water Resistant (for Carton Sealing)
PPP-T-97c(2)	Tape, Pressure-Sensitive Adhesive, Filament Reinforced
MIL-T-22085A(1) (AS) Notice 1	Tape, Pressure-Sensitive Adhesive, Preservation and Sealing
MIL-T-43036A(2)	Tape, Pressure-Sensitive Adhesive, Plastic Film, Filament Reinforced (for Sealing Fiber Containers and Cans)
MIL-T-43115(M)	Tape, Pressure-Sensitive Adhesive, for Preservation and Sealing

VOLATILE CORROSION INHIBITORS

MIL-i-8574C	Inhibitors, Corrosion, Volatile, Utilization of
MIL-F-22019B	Film, Transparent, Flexible, Sealable, Volatile Corrosion Inhibitor Treated
MIL-F-22020B	Bags, Transparent, Flexible, Sealable, Volatile Corrosion Inhibitor Treated

VOLATILE CORROSION INHIBITORS

MIL-I-22110A(1) Inhibitors, Corrosion, Volatile  
Crystalline

MIL-I-23310 Inhibitors, Corrosion, Volatile,  
Oil Type

MIL-B-40028 Bags, Barrier, With VCI Treated  
Liners

MIL-L-46002(1) Lubricating Oil, Contact and Volatile  
Corrosion Inhibited

WRAPPING MATERIALS (OTHER THAN BARRIER MATERIALS)

UU-P-134c Paper, Wrapping, Wet-Waxed

UU-P-268e(2) Paper, Kraft Wrapping

UU-P-553b Paper, Wrapping, Tissue

MIL-P-130C(1) Paper, Wrapping, Laminated and  
Creped

MIL-P-13988 Paper, Lags, Tissue, Antitarnish,  
Wrapping

MIL-P-17667B Paper, Wrapping, Chemically  
Neutral (Non-Corrosive)

VII

MISCELLANEOUS PUBLICATIONS

MIL-P-116E(3) Preservation, Methods Of  
Int. And. i (EL)

MIL-S-207B(1) Sulphuric Acid Electrolyte:  
Packaging, Packing, and Marling  
for Shipment and Storage of

MIL-P-208C Packaging and Packing for Shipment  
and Storage of Batteries, Storage,  
Automotive and Navy Portable

MIL-B-3149C Baling of Clothing and Equipage

MIL-P-4861B Packaging, Preformed, Rubber,  
Packing, Packaging Of

MIL-P-9024D Packaging, Materials Handling and  
(USAF) Transportability, System and System  
Segments, General Specification for

MIL-M-9950(1) Missile Components; Liquid Oxygen,  
Nitrogen, Gaseous Oxygen, Instru-  
ment Air, Helium and Fuel Handling  
Systems, Cleaning and Packaging  
for Delivery

MIL-R-45213A(1) Rocket and Missile Systems, Ground  
(M1) Support Equipment, Preparation and  
Packing of General Specification

MISCELLANEOUS PUBLICATIONS (CONTINUED)

MIL-C-46779A (AT)	Carrier, Guided Missile Equipment, Full-Tracked: XM474E2; Processing for Storage and Shipment of
FED-STD-75a	Glossary of Packaging Terms
FED-STD-101a (Ch. Not. 5)	Preservation, Packaging and Packing Materials; Test Procedures
FED-STD-102b	Preservation, Packaging and Packing Levels
FED-STD-595 (Ch. Not. 2)	Colors
FED-STD-791A(2)	Lubricants, Liquid Fuels, and Related Products, Methods of Testing
MIL-STD-105D (Ch. Not. 2)	Sampling Procedures and Tables for Inspection by Attributes
MIL-STD-129E (Ch. Not. 7)	Marking for Shipment and Storage
MIL-STD-147A	Palletized Unit Loads (40" x 48", 4-Way Partial and 4-Way Pallets)
MIL-STD-290C(1)	Packaging, Packing and Marking of Petroleum and Related Products

MISCELLANEOUS PUBLICATIONS (CONTINUED)

MIL-STD-726B (Ch. Not. 2)	Packaging Requirements Code
MIL-STD-731	Quality of Wood Members for Containers and Pallets
MIL-STD-834A (USAF)	Packaging Data Forms, Instruction for Preparation and Use of
MIL-STD-1186	Cushioning, Anchoring, Bracing, Blocking, and Waterproofing, with appropriate Test Methods
H 109	Quality Control and Reliability Statistical Procedures for Determining Validity of Supplies Attributes Inspection
MIL-HDBK-696	Plastic Coating Compounds, Stripable, Hot and Cold Dip
TM 10-252	Loading Insert Containers and Cargo Transporters
DOD 4500.32-R Ch. 1	Military Standard Transportation and Movement Procedures (MILSTAMP)
DSAM 4145.2 TM 38-230/ NAVEXOS P-938 AFP 71-1-6/ MCO P4030.21/ (Ch. Not. 4)	Preservation, Packaging and Packing of Military Supplies and Equipment. ("The Packaging Manual")
DSAM 4145.6 FM 38-40 NAVSANDA P451 AFP 71-1-7 MCO P4030.24	Packaging Administration

MISCELLANEOUS PUBLICATIONS (CONTINUED)

TM 55-601	Troop Movements Guide
TM 743-200/ Change 1-16 NAVSANDA Pub 284/ AFM 67-3 NAVMC 1101/ DSAM 4145.1/ (Change 15)	Storage and Materials Handling
SB 38-100	Preservation, Packaging, and Packing Materials, Supplies and Equipment Used by the Army
DSAR 4145.7	Packaging, Packing and Marking of DSA Items of Supply
AR 55-35 C1	Utilization of Cargo Trailers in Roll-On/Roll-Off Service
AR 700-15 Change 1	Preservation, Packaging and Packing
AR 700-58 NAVSUP PUB 378/ AFR 71-4 MCO P4030.29 DSAR 4145.8	Report of Packaging and Handling Deficiencies
AR 725-50 Change 1-16	Requisitioning, Receipt and Issue System (MILSTRIP)
AR 740-20	Preparation for Shipment



MISCELLANEOUS PUBLICATIONS (CONTINUED)

AMCR 350-4	Utilization and Operation of Joint Military Packaging Training Center
AMCR 746-2	Marking and Packing of Supplies and Equipment, Packaging of Army Material
AMCR 746-5 Change 1	Marking and Packing of Supplies and Equipment, Use of Standard Plywood Consolidation Containers in Conex Shipments to Southeast Asia
AMCF 706-121	Packaging and Pack Engineering Handbook
AFR 71-6	Preservation, Packaging, Packing, and Marking Policy
BUSANDA 4030.17	Preservation, Packaging, Packing and Marking, Navy Policy For
MCO 4030.14C	Marine Corps Policy and Basic Operating Procedures for Preservation, Packaging, Packing, and Marking of Materials
I.O. 00-25-203	Standards and Guidelines for the Design and Operation of Clean Rooms and Clean Work Stations
I O. 42C-1-11	Cleaning and Inspection Procedures for Rocket Propellant Systems (Liquid and Gaseous)

MISCELLANEOUS PUBLICATIONS (CONTINUED)

ATB No. 37 CAB No. 82 Rev 1-57	Official Air Transport Restricted Articles Tariff No. 8D
ICC 16	Agent T. C. George's Water Carrier Tariff No. 16
ICC 19	Agent T. C. George's Tariff No. 19: Transportation of Explosives and Other Dangerous Articles by Land and Water in Rail Freight Service and by Motor Vehicle (high Way) and Water
ICC-8200/ Sup 43, 44	Official Express Classification No. 36 (RLA Express rules)
MF ICC 7 FMC 6, Sup 7, 9, 10, 11, 12, 13, 14	National Motor Freight Classifi- cation A-E
MF ICC-13 FMC 11/ Sup 3, 4, 5	Motor Carriers' Explosives and Dangerous Articles Tariff No. 12
ASTM-D-775-61	Methods of Drop Test for Shipping Containers
ASTM-D-880-63T	Incline Impact Test for Shipping Containers

MISCELLANEOUS PUBLICATIONS (CONTINUED)

ASTM-D-895-62T	Method of Test for Watervapor Permeability of Packages
AAK	Rules Regulating the Safe Loading of Freight in Closed Cars, Pamphlet No. 14
AAR	General Rules for Loading Commodi- ties in Closed Cars, Circular No. 42-C
AAR	Rules Governing the Loading of Commodities on Open Top Cars, Section 1-6

VIII

SPECIAL SUBJECT PUBLICATIONS

SHIPMENT AND STORAGE OF HOUSEHOLD GOODS

PPP-B-580a	Boxes, Wood, household Goods
MIL-P-22084 (S&A)	Preparation of Household Goods and Personal Effects for Local Transfer
MIL-STD-212C(1)	Preparation of Household Goods for Shipment and Storage and Related Services
AR 55-356 NAV SUP PUB 455 AFR 75-17 MCO P4050.34A DSAR 4500.1	Unrated Household Goods Traffic
DSAR 4500.2/ AR 55-48/ AFR 75-35/ MCO P4600.12/	house Trailer
DOD 4145.16-R AR 743-455 NAVSANDA PUB/ 297/ AFR 67-61A/ NAVMC 1133/ (Rev 1-60) C1	Department of Defense Commercial Warehousing and Related Services for Household Goods of Military and Civilian Personnel

EQUIPMENT PRESERVATION FOR SHIPMENT AND STORAGE

0-A-548a(1) 0-A-00548b	Antifreeze, Ethylene Glycol, Inhibited
0-E-760b(2)	Ethyl Alcohol, Denatured Alcohol and Proprietary Solvent
0-I-490A	Inhibitor, Corrosion, Liquid Cooling Systems
0-S-576c	Sodium Bicarbonate, Technical
PT-P-664b	Primer Coating, Synthetic, Rust-Inhibiting, Lacquer-Resisting
VV-F-800	Fuel Oil, Diesel
JJJ-C-86(1)	Castor Oil, Technical
NNN-P-40	Paper, Lens Tissue
MIL-G-762b	Graders, Road, Packaging Of
MIL-I-3351B(1)	Tractor, Full Tracked, Low Speed; Tractor, Wheeled, Agriculture; and Tractor, Wheeled, Industrial, and their Attachments, Packaging Of
MIL-E-10062b(1)	Engines: Preparation for Shipment and Storage Of

EQUIPMENT PRESERVATION FOR SHIPMENT AND STORAGE  
(CONTINUED)

MIL-C-35808(2) Cranes and Crane-Shovels, Truck,  
Int. Amd. 3(MO) Crawler, and Wheel Mounted, Full  
Revolving and Their Attachments,  
Packaging Of

MIL-C-3600A(1) Compressors, Air and Gas (Except  
Oxygen), Packaging Of

MIL-C-10597C(1) Cleaning Compound With Conditioner  
and Inhibitor for Engine Cooling  
Systems

MIL-C-11755A Compound, Antifreeze, Arctic Type

MIL-O-12841A On Van Equipment (OVE) for Military  
(MO) Vehicles, Packaging Of

MIL-P-14232C Parts, Equipment and Tools for  
Amt. 2 (AT) Ordnance Materiel, Packaging Of

MIL-T-45052 Tank, Combat, Full-Track, 90mm.  
(MO) Gun, M48A2: Preparation for Storage  
and Shipment Of

MIL-T-45309B Tank, Combat, Full-Track, 105mm.  
Gun, M60 and M60E1; Processing  
for Storage and Shipment Of

EQUIPMENT PRESERVATION FOR SHIPMENT AND STORAGE  
(CONTINUED)

MIL-STD-162C Ch. Not. 1	Materials Handling Equipment Preparation for Shipment, Storage, Cyclic Maintenance, Routine Testing and Process
MIL-STD-171B (MR) Change 1	Finishing of Metal and Wood Surfaces
MIL-STD-281A (Ch. Notice 1)	Automobiles, Trucks, Truck-Tractor, Trailers and Trailer Dollies; Preservation and Packaging Of
MIL-STD-642F	Identification Marking of Admin- istrative, Combat and Tactical Transport Vehicles
TB-9-299/1 Ch 1-3	Processing of Unboxed, Self- Propelled and Towed Class II Ordnance General Supplies and Related Material for Shipment and Storage
TB 740-93-2	Preservation of USAMEC Mechanical Equipment for Shipment and Storage
T.O. 2J-1-18 Change 10	Corrosion Control of Gas Turbine Engines

EQUIPMENT PRESERVATION FOR SHIPMENT AND STORAGE  
(CONTINUED)

T.O. 35G1-3-11 Handbook, Operation and Service  
Instructions. Type MA-2 Multi-  
Purpose Unit

T.O. 35E9-10-1 Air-Conditioner, Type MA-7

T.O. 36G1-2-2-  
11 Generating and Charging Plant,  
Type A1-A

T.O. 36A10-3-  
5-1 Aircraft Towing Tractor, Type  
MB-2

T.O. 36A12-8-  
12-1 Crash Fire and Rescue Truck,  
Type O-11B

PREPARATION OF FREIGHT FOR AIR SHIPMENT

MIL-S-4473C Shielding of Magnetron Tubes and  
Magnets and Components Containing  
Magnetron Tubes or Magnets for Air  
Shipment

MIL-A-8421B Air Transportability Requirements,  
(USAF) General Specification For

MIL-M-19590C Marking of Commodities and  
Containers to Indicate Radio-  
active Materials



PREPARATION OF FREIGHT FOR AIR SHIPMENT (CONTINUED)

MIL-P-22562      Pallet, Materials Handling  
(MC)

MIL-A-25175A      Air Transport, Nontactical,  
Packing For

MIL-P-4318 (GL) Platform Components, Air Delivery,  
(Amend 2)      Modular (Dual Rail System) Type II

AR 705-3      DOD Engineering for Transport-  
NAVMATINST/      ability Program  
4600.5A  
AFR 80-18/  
MCO 4610.14/

DSAM 4145.3/      Packaging and Handling of Dangerous  
Change 3/      Materials for Transportation by  
AFM 71-4/      Military Aircraft  
TM 38-250/  
NAVWEPS 15-03-500/  
MCO P4030.19/

JSAM 4145.7      Preparation of Freight For Air  
TM 38-236      Shipment  
NAVAIR 15-01-3  
AFP 71-8  
MCO P4030.30

PREPARATION OF FREIGHT FOR AIR SHIPMENT (CONTINUED)

TM 10-500/ Air Drop of Supplies and Equipment,  
Change 1/ General  
T.O. 36A5-1/  
301/

TM 10-500-91-1/ Air Drop of Supplies and Equipment;  
T.O. 13C7-8-31 Rigging Engineer Tool Outfit,  
Pioneer, Portable, Electrical  
Tools With Accompanying Load on  
6,000 Pound Cargo Platform (Honey  
Comb)

T.O. 00-85-8 Interior Blocking, Bracing, and  
Cushioning

T.O. 00-85-9 Preparation of Freight for Air  
Shipment

T.O. 1C-124B-9 Cargo Loading C-124

T.O. 1C-130A-9 Cargo Loading C-130

T.O. 1C-133A-9 Loading Instructions C-133  
Change 18

T.O. 1C-141-9 Cargo Loading C-141  
Change 15

T.O. 13C4-1-1 General Principles of Packaging  
and Rigging Air Delivery Con-  
tainers

PREPARATION OF FREIGHT FOR AIR SHIPMENT (CONTINUED)

AFM 67-1            USAF Supply Manual, Vol 1, Part 4  
Amd. 30

AFLCM 76-1A        LOGAIR Traffic Manual

PRESERVATION FOR SHIPMENT OR STORAGE OF FIXED-  
AND ROTARY-WING AIRCRAFT

G-C-303b           Chromium Trioxide, Technical  
                      (Chromic Acid)

TT-N-95a           Naptha, Aliphatic

TT-P-666B          Primer Coating, Zinc Yellow, for  
                      Aluminum and Magnesium Surfaces

MIL-C-4339C        Corrosion Preventive, Soluble Oil,  
                      for Water Injection Systems

MIL-B-5612A        Brush, Cleaning, Aircraft

MIL-L-6081C(2)    Lubricating, Oil Jet Engine

MIL-C-8188C        Corrosion Preventive Oil, Gas  
                      Turbine Engine, Aircraft,  
                      Synthetic Base

PRESERVATION FOR SHIPMENT OR STORAGE OF FIXED-  
AND ROTARY-WING AIRCRAFT (CONTINUED)

MIL-C-18187A	Coating, Protective, Application to Fabric Surfaces of Aircraft
MIL-W-18723C	Wax, Aircraft, Waterproof, Solvent Type
MIL-C-25769E MIL-C-0025769F (84)	Cleaning Compound, Aircraft, Surface, Alkaline Waterbase
TM 1-L19-S Change 1	Preparation for Shipment of L-19 Aircraft
TM 1-UH1-S	Preparation for Shipment of UH-1A and UH-1B
TM 1-L20-S	Preparation for Shipment of L-20 Aircraft
TM 55-1520-210- 10 - Ch 1	Operators' Manual: Army Model UH-1D Helicopter
TM 55-1520-210- 20	Organizational Maintenance Manual: Army Model UH-1D Helicopter
TM AVN 23-65	Aircraft Components Requiring Maintenance and Historical Data

IA

FORMULAS

Formula for Determining Barrier Size.

1. Measure length of the item or container.
2. Measure width of the item or container.
3. Measure depth of the item or container.
  - a. Length of barrier equals 2 times width, plus 2 times depth, plus 5 inches (or 3 inches).
  - b. Width of barrier equals length, plus width, plus 3 inches (or 5 inches).

Note. - Multiply totals of a. and b. together; divide by 144 to arrive at number of square feet displacement within the barrier.

Formula for Determining Volume of Round Rigid Metal Container (Sealed)  $V = \pi r^2 h$

Measure diameter of container (example: 12 inches). Measure inside height of container (example: 20 inches).

FORMULAS (CONTINUED)

- a. After diameter has been determined (Example: 12 inches), multiply 1/2 the diameter times the other half. (Example: 6 inches times 6 inches equals 36 square inches).
- b. Multiply answer (Example: 36 inches) times 3.1416 (Example: 36 inches times 3.1416 equals 113.0976 square inches or 114 square inches).
- c. Multiply answer of b. (Example: 114 square inches times height of container (Example: 20 inches) thus 20 inches times 114 square inches equals 2280 cubic inches).
- d. To convert cubic inches into cubic feet, divide 1728 into answer (Example: 2280 cubic inches) thus 2280 divided by 1728 equals 1.3 cubic feet).

Desiccant Formula I: To find units of desiccants for use within barrier which is other than a sealed rigid metal barrier:  $U = CA + XD$

General:

The proper amount of desiccant in a package is very important and should never be guessed. Current directives call for desiccant in units instead of ounces or pounds.

Desiccant Formula I (Continued)

U = Number of units of desiccant to be used.

C = 0.011 when area of barrier is given in square inches.

C = 1.6 when area of barrier is given in square feet.

A = Area of barrier in square inches or square feet.

X = A numerical factor, varying with the type of dunnage used:

X = 8 for Hair, felt, cellulosic material, wood, and other materials not shown below.

X = 6 for Bound fiber (animal hair, synthetic fiber or vegetable fiber bound with rubber).

X = 2 for Glass fiber.

X = 0.5(½) for Synthetic foams and rubber.

D = Pounds of dunnage other than metal within barrier.

Desiccant Formula I (Continued)

- a. Multiply the factor of .011 or 1.6 times the number of square inches or square feet, respectively.
- b. To determine amount of desiccant required for each pound of cushioning or blocking (dunnage) used by Type, see X. Multiply number of pounds times applicable factor. (Example: 4 pounds wood) thus 4 times 8 equals 32 units).
- c. Add unit totals of a. and b. together. This answer will equal the total number units of desiccant required within the package.

Desiccant Formula II: To find units of desiccant for use within a sealed rigid metal container:

$$U = KV + XD$$

U = Number of units of desiccant to be used.

K = 0.0007 when volume is given in cubic inches

K = 1.2 when volume is given in cubic feet.

V = Volume within carrier in cubic inches or cubic feet.



Desiccant Formula II: (Continued)

X = A numerical factor, varying with the type of dunnage used. (See Formula I.)

D = Pounds of dunnage other than metal within barrier.

- a. Multiply number of cubic feet of container (Example: 1.3) times the factor of 1.2 (0.0007 if answer is cubic inches). Thus  $1.3 \times 1.2 = 1.56$  units or  $2280 \times 0.0007 = 1.59$  units). This answer is the number of units required for the container itself.
- b. To determine amount of desiccant required for each pound of cushioning or blocking (dunnage) used by type, see X, Formula I. Multiply number of pounds times applicable factor (Example: 4 pounds wood, thus  $4 \times 8 = 32$  units).
- c. Add unit total of a. and b. together (Example: 1.56 plus 32 = 33.56 or 34 units). This answer will equal the total number of units of desiccant required within the packages.

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